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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,976	07/26/2007	Siegfried Rossmann	5367-261PUS	9342

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EXAMINER
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WHITTINGTON, KENNETH

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2858

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,976	<b>Applicant(s)</b> ROSSMANN ET AL.	
	<b>Examiner</b> KENNETH J. WHITTINGTON	<b>Art Unit</b> 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 7 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/05/2006</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kakuta et al. (US6969988), hereinafter Kakuta.

Regarding claim 1, Kakuta discloses a magnetic field sensor, comprising:

a sensor arrangement, which is supplied by a supply device and generates a sensor signal (See Kakuta FIG. 1, note sensor arrangement HE and supply device comprising drive portion of item 4);

an evaluation device, to which the sensor signal is fed and which outputs a first output signal corresponding to the amplitude of the sensor signal (See FIG. 1, note items 4, 6 and 8); and

a feedback device, to which the first output signal is fed and which controls the supply device such that the first output signal remains substantially constant (See FIG. 1, note items 16, 18, 20, 22, 24 and see col. 6, line 56 to col. 7, line 10).

Regarding claim 2, Kakuta discloses the sensor arrangement contains a Hall element arrangement, which is fed by a Hall current and generates a Hall signal as sensor signal (See FIG. 1, not item HE), and comprising a feedback device embodied as an amplification device, to which the first output signal is fed and which controls the Hall current (See FIG. 1, note items 16, 18, 20, 22, 24).

Regarding claim 3, Kakuta discloses the first output signal corresponds to the actual value amplitude of the sensor signal and the feedback device sets the supply

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device with the aid of a predetermined desired value amplitude such that the amplitude of the sensor signal remains constant (See FIG. 1, note items 16, 18, 20, 22, 24 and see col. 6, line 56 to col. 8, line 51, note x-components held constant while y-component used for calculation).

Regarding claim 4, Kakuta discloses the Hall element arrangement detects a rotating magnetic field and a second output signal of the evaluation device corresponds to the rotation angle determined (See FIG. 1, note items 16, 18, 20, 22, 24 and see col. 6, line 56 to col. 8, line 51, note x-components held constant while y-component used for calculation of rotation angle).

Regarding claim 5, Kakuta discloses the Hall signal of the Hall element arrangement contains a first measurement signal and a second measurement signal, which is phase-shifted by 90.degree. relative to the first measurement signal (See FIGS. 1-2, note x-component sensors and y-component sensors which will provide 90 degree phase shifted signals from the rotating magnetic field).

Regarding claim 6, Kakuta discloses the evaluation device contains an analog-to-digital converter, which digitizes the sensor signal, and a computation device connected downstream, which generates the first and/or the second output signal (See FIG. 1, note modulation portion of item 4 and item 6 create a digital signal from analog sensors HE and see item 8 which calculates peak to peak of digital signals).

Regarding claim 8, Kakuta discloses a method for the operation of a magnetic field sensor comprising:

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supplying with a supply device a sensor element of the magnetic field sensors (See Kakuta FIG. 1, note sensor arrangement HE and supply device comprising drive portion of item 4); and

generating with the sensor element a sensor signal that is conditioned by means of an evaluation device to form a first output signal corresponding to the amplitude of the sensor signal (See FIG. 1, note items 4, 6 and 8), and

feeding the sensor signal to a feedback device, which controls the supply device on the output side such that the first output signal remains constant (See FIG. 1, note items 16, 18, 20, 22, 24 and see col. 6, line 56 to col. 7, line 10).

Regarding claim 9, Kakuta discloses the actual value amplitude of the sensor signal is derived from the first output signal and the feedback device sets the supply device with the aid of a predetermined desired value amplitude such that the actual value amplitude of the sensor signal remains constant (See FIG. 1, note items 16, 18, 20, 22, 24 and see col. 6, line 56 to col. 8, line 51, note x-components held constant while y-component used for calculation).

Regarding claim 10, Kakuta discloses a rotating magnetic field is detected by means of the sensor element and a second output signal corresponding to the rotation angle is generated by means of the evaluation device (See FIG. 1, note items 16, 18, 20, 22, 24 and see col. 6, line 56 to col. 8, line 51, note x-components held constant while y-component used for calculation).

Regarding claim 11, Kakuta discloses a sensor element embodied as a Hall element arrangement is arranged in such a way that the Hall signal contains a first

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measurement signal and a second measurement signal, which is phase-shifted by 90.degree. relative to the first measurement signal (See FIGS. 1-2, note x-component sensors and y-component sensors which will provide 90 degree phase shifted signals from the rotating magnetic field).

Regarding claim 12, Kakuta discloses the evaluation device digitizes the sensor signal by means of an analog-to-digital converter, and a computation device connected downstream of the evaluation device generates the first and/or the second output signal (See FIG. 1, note modulation portion of item 4 and item 6 create a digital signal from analog sensors HE and see item 8 which calculates peak to peak of digital signals).

### ***Allowable Subject Matter***

Claims 7 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: regarding these claims, the prior art does not show or teach the combination or positions thereof of the comparator, the counter and DA converter as recited in the claims and in combination with the other features of these claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Demierre NPL paper teaches varying designs for Hall

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sensor systems and operation features thereof. US4752733 teaches a method for providing feedback to a Hall sensor to provide for error compensation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH J. WHITTINGTON whose telephone number is (571)272-2264. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth J Whittington/  
Primary Examiner, Art Unit 2858

kjw